

## SACRED PLANTS OF AURANGABAD DISTRICT OF BIHAR AND THEIR MEDICINAL USES

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### ABSTRACT

*Thirty three crores God and Goddess are worshiped in the Hindu religion. Many plants and their parts are offered during Puja in daily life and festivals with aim of health, wealth and satisfaction. This paper deals with the six sacred plants of Aurangabad district of Bihar, which used in traditional religious rituals and ceremonies. These plants are Brassica campestris, Hibiscus rosa-sinensis, Thevetia nerifolia, Calotropis procera, Datura stramonium and Ocimum sanctum. These plants also have much medicinal potential.*

**KEYWORDS:** Sacred plants, Worship, Medicinal & God

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### INTRODUCTION

The plants or their parts, which are used in religious ceremonies are called sacred plants (Dhiman, 2003). All communities organize various festivals and ceremonies from time to time to propitiate their gods and goddess (Singh and Singh, 2001). Plant worship and myths in Indian tradition have recently been studied by Sinha (1979), Gupta (1991) and Upadhyay and Chauhan (2000). There is no work about the sacred plants of Aurangabad, Bihar. Present paper deals with the sacred, medicinal plants of Aurangabad district of Bihar with the aims of the following Objectives.

- To document the medicinally important sacred plants of Aurangabad district of Bihar and
- To elucidate the information about the medicinal uses of the sacred plants.

### MATERIALS AND METHODS

Frequently survey of different regions of Aurangabad of Bihar has been conducted for recording the plant and plants parts utilized in worship. Local peoples, priests, saints, sadhus, shopkeepers have been contacted. Temples were also visited for recording. For knowledge about the medicinal uses Vaidya, Ojha, herbal shopkeepers etc. have been contacted. Published literature are also concerned.

### Enumeration

Data of sacred plants are arranged in the following sequences. Botanical name, family, vernacular name, availability status, characteristics, medicinal uses and parts utilized for worship.

### RESULTS AND DISCUSSIONS

This report includes the six most important plants species used in worship and has many medicinal properties.

***Brassica campestris* Linn. (Cruciferae, Sarson)**

Cultivated, herbaceous, dicot plant with a tap root system and aerial, cylindrical, erect, branched, solid stem. Leaf is alternate, simple, cauline and ramal, exstipulate and sessile. Lower leaves lyrate with deeply, cut-margins, Acute apex with unicostate reticulate venation. Inflorescence is raceme, with complete, pedicellate, ebracteate, actinomorphic, hermaphrodite, hypogynous, tetramerous, cyclic and yellow flowers. Polysepalous condition with four sepals in two whorls (two sepals, in each whorl). Polypetalous flowers with four, cruciform petals (distinguished into claw and limb) and imbricate aestivation. Tetradynamous, ditheous, basifixed, introse stamens with six in numbers arranged in two whorls. (2+4). Gynoecium is syncarpous, bicarpellary with superior, unilocular ovary (later becomes bilocular due to replum). Ovules are many with parietal placentation, style is short and stigma bilobed. Siliqua fruit.

The leaves (foliage) of young plants are used as green vegetables. (Bhatt *et al.*, 2003).

Glyceride and erucic acid present in oil obtained from seeds. The seeds are used as condiments and oil used in the preparation of pickles, vegetables, curries etc. It is also used to burn lamps, oiling wooden goods, tempering steel, making soaps and anointing body etc. The oil cake is used for cattle feed.

Oil utilized in navel during winter to check the crack in lips. It is also used in nose to protect from cold and cough, in hair for shining and drops in ear for removing dirt and wax.

Oil is utilized on the horn of cattle like ox, cow, buffalo, goat etc. on Govardhan Puja and other festivals, It is utilized to burn deeya (lamp) on every Saturday before the God Shani Maharaj.

***Hibiscus rosa-sinensis* (Malvaceae, Arhul, Gurhul, China rose)**

Planted, dicot, erect, branched, evergreen bushy shrub (8-16 ft) with tap root system and herbaceous (lower portions woody), cylindrical, solid, glabrous stem. Cauline and ramal, stipulate (free lateral stipules), simple, petiolated. ovate glabrous leaf with serrate margin, acute apex and unicostate reticulate venation. Inflorescence is solitary axillary. Flowers are (10 cm diameters) ebracteate, actinomorphic, complete pentamerous, hermaphrodite, hypogynous and cyclic. 5-8 bracteoles (epicalyx) present in whorl around the calyx. Five gamosepalous sepals present with valvate aestivation and five polypetalous, twisted, red petals present, which are united at the base and adnate to the staminal tube. Indefinite, epipetalous stamens present in monadelphous condition with reniform, monotheous, extrose anthers, Gynoecium is pentacarpellary and syncarpous with superior pentalocular ovary. Many ovules are present with axile placentation. Style is long, passing through the staminal tube and divided into five discoid stigmatic lobes. Fruit is Capsule.

Litmus paper, black shoe polish and black hair dye had prepared from its petals (Standley and Blake, 1923). The plant has potential in cosmetic skin care. An extract from the flowers has shown to function as an anti-solar agent by absorbing ultraviolet radiation (Nevade *et al.*, 2011)

Red flowers of *Hibiscus rosa-sinensis* have much importance in tantra mantra. It is used to worship goddess Kali and Durga.

***Thevetia nerifolia* Juss Ex Steud (Apocynaceae, Pili Kaner)**

Wild / Planted, herbaceous, dicot plant (6m high) with tap root system and erect, aerial, branched, smooth cylindrical stem with latex. Leaf is cauline and ramal, exstipulate, subsessile, alternate, glabrous with pulvinous leaf base and linear-

lanceolate shape. Leaf apex is acute and venation is unicostate reticulate. Inflorescence is axillary dichasial cyme. Yellow coloured flowers are bracteate, bracteolate, pedicellate, complete, actinomorphic, hermaphrodite, hypogynous, pentamerous and cyclic. Persistent sepals are five with polysepalous condition and quincuncial aestivation. Petals are also five with gamopetalous condition and twisted aestivation. Shape of the corolla is infundibuliform with coronary outgrowth. Stamens are five polyandrous, epipetalous, inserted at the throat of the corolla. Filaments are short and anthers are dithecal, basifixed, sagittate and introse. Gynoecium is bicarpellary and syncarpous with superior, bilocular ovary. Two ovules present in each locule with axile placentation. Style is long and stigma is umbrella shaped. A hypogynous five lobed nectar secreting disc is present. Drupe fruit.

Glycosidal derivatives of cardenolide like thevetin present in the plant (except leaves and fruit pulp). In leaves Nerianthin present. Oil from kernel used in external application in skin infection. After free from toxic substances it uses for culinary purposes. It consists mainly of glycerides of Oleic acid.

In West Indies, half leaf and tincture of bark has known as an emetic and purgative. In Java, Indian immigrants smoked dried leaves. Tincture of bark has been used as a febrifuge. In Senegal, bark and leaves may be used in amenorrhoea. Fruits have insecticidal activity.

Flowers offered to the Shivji.

#### ***Calotropis procera* (Ait) R. Br. (Asclepiadaceae, Akwan, Madar)**

Wild, dicot plant with tap root system and aerial, erect, cylindrical, solid, branched, herbaceous stem which lower portions are smooth and woody while upper portion is covered with woolly hairs. Milky latex present. Opposite decussate, exstipulate simple, sessile leaf is cauline and ramel. It is semi-amplexicaul, elliptic ovate, entire, hairy and woolly with acute margin and unicostate, reticulate venation. Leaf is coriaceous. Inflorescence is dichasial cyme. Flowers are pedicellate, bracteate, bracteolate, actinomorphic, complete, hermaphrodite, pentamerous, hypogynous and cyclic. Sepals are five with polysepalous condition and quincuncial aestivation. Petals are five with gamopetalous condition and twisted aestivation. Stamens are five, united with the stigma to form gynostegium, each stamen is represented by two pollinia with their retinaculae. The pollinia of the adjacent anthers are joined by their retinaculae to corpusculum in a groove to form translator. A coronary outgrowth is present at the back of each stamen. Gynoecium is bicarpellary and superior. Ovaries are free but upper portion of style and stigma are fused. Many ovules present in each locule with marginal placentation. Stigmatic head is pentagonal. Fruit is follicle

A complex mixture of chemicals present in the milky sap in which some are steroidal heart poisons named as "Cardiac aglycones". Its toxicity is due to the presence of steroidal components like calotropin, calotoxin, calactin, uscharidin and voruscharin.

Its latex is antiseptic and antiinflammatory used in Asthma, piles and eczema (Bhatt *et al.*, 2002). A drop of latex on sugar candy after drying used to eat in asthma also (Bhatt *et al.*, 2003). Flowers used in cough and asthma (Dhiman, 2003). In Asthma, petals are chewed once a day for a week. Ash of the flower is mixed with honey and given thrice per day to cure whooping cough (Gupta *et al.*, 1991). Flower buds used to cure leprosy (Singh and Singh, 2001., Choudhary, 2021)

Flower offered to the Shankarji and Ganesh ji (Dhiman, 2003). Flower buds wear in neck in view that God 'Shiva' protected them (Singh and Singh., 2001).

***Datura stramonium* Linn (Solanaceae, Datura)**

Wild, herbaceous, dicot weed with tap root system and aerial, branched, erect, cylindrical, pubescent stem (about 1 m height (Henkel, 1911). 8-20 cm long leaf is cauline and ramal. It is alternate, exstipulate, simple, petiolated, ovate shaped with entire leaf margin, acute leaf tip and unicostate reticulate venation. Inflorescence is solitary axillary cymose. Flowers are white, 6-9 cm long, bracteate, pedicellate, actinomorphic, complete, pentamerous, hermaphrodite, hypogynous and cyclic. Calyx is long and tubular, swollen at the bottom. Persistent sepals are five in numbers with gamosepalous condition and twisted aestivation. Five gamopetalous petals present with twisted aestivation. Stamens are five, polyandrous and epipetalous with ditheous, basifixed, introse anthers. Gynoecium is bicarpellary and syncarpous. Ovary is superior, bilocular at the apex and tetralocular at the base due to the false septum. Many ovules present in each locule with axile placentation. Septum is oblique and the placentae are highly swollen. Style is long with dome-shaped stigma. Fruit is capsule with prickles.

Hyoscyamine (have antispasmodic and narcotic properties), atropine and scopolamine like alkaloids are present in it. All parts of *Datura* bears Dangerous 'tropane' which is responsible for the deliriant effects (Glatstein *et al.*, 2016).

*D. stramonium* has used in traditional medicine to treat a variety of ailments. It also used as a hallucinogen.

Leaves and seeds have medicinal importance. Used in bronchitis and asthma. It controls salivation in mouth. Flower juice is used for earaches. Fruit juice is used to treat dandruff and hair loss. Seeds are burned then placed on a toothache or used as narcotic and anti-spasmodic. A paste of dried leaves is applied to boils and sores (Kumari, 2016).

It is used for relaxing bronchial muscles in asthma, as intoxicant, emetic. *Datura* seeds are smoked in asthma.

It is a major drug of abuse which affects both mind and body.

Flower and fruit offered to the Shankar ji (Dhiman, 2003).

***Ocimum sanctum* Linn. ( Lamiaceae, Tulsi, Basil)**

Cultivated / Wild / planted, dicotyledonous perennial, aromatic herb with tap root system and aerial, erect, branched solid, quadrangular, pubescent stem with 1 m height. Leaf is cauline and ramal, greenish, opposite, decussate, exstipulate, petiolated, pubescent, simple, ovate shaped with serrate margin and acute apex and unicostate reticulate venation. Aromatic smell present in the leaf, Petiole is slender and hairy. Inflorescence is verticillaster. Flowers are pedicellate, bracteate, zygomorphic, hermaphrodite, complete, pentamerous, hypogynous and cyclic. No. of sepals are five with gamosepalous condition and valvate aestivation. Calyx is bilabiate and persistent. Petals are five with gamopetalous condition and valvate aestivation. Corolla is bilipped. Stamens are 4, epipetalous, polyandrous, didynamous with ditheous, dorsifixed, introse anther. Gynoecium is bicarpellary and syncarpous. Ovary is superior and tetralocular. One ovule present in each locule with axile placentation. A disc is present below the ovary. Style is gynobasic and stigma is bifid. Carcerulus fruit.

The whole plant is medicinal. Essential oil derived from vegetative parts is costly. The plant pacifies vitiated tridoshas, cough, asthma, bronchitis, fever, toxins, vomiting, lumbago, gastric distension, ringworm and skin diseases (Kumari, 2016). Tulsi is recommended as a treatment for anxiety, diarrhea, fever, dysentery, arthritis, eye diseases, otalgia, indigestion, hiccups, gastric, cardiac and genito-urinary disorders, back pain, skin diseases, ring worm, insect. snake and scorpion bites and malaria. (Singh *et al.*, 2010, Mohan *et al.*, 2011., Pattanayak *et al.*, 2010., Mondal *et al.*, 2009).

Leaves and seeds used in bronchitis and digestive problems. It has bacteriocidal and insecticidal properties. Also used in ringworm and skin diseases, cures common cold and relieve ear pain. Decoction of root is given in malarial fever to bring about sweating. Its stem, leaves, and inflorescence are largely used to control cough and cold. It is also used as an antiseptic, diuretic, aromatic and cardiac stimulant.

Leaves used in Cholera, fever, cough, cold and asthma. (Dhiman, 2003). The leaves can also be chewed (Bhatt *et al.*, 2003). Leaves utilized in Kardha to stimulate the immune system. Also utilized in tea. The leaf juice is mixed with *Zingiber officinale* Rosc. Rhizome's juice and taken one teaspoonful to increase vitality in ageing males. (Gupta *et al.*, 1999)

By a unique combination of pharmacological actions, Tulsi can address physical, chemical, metabolic and psychological stress. Tulsi protected tissues and organs against chemical stress (industrial pollutants and heavy metals), physical stress (prolonged physical exertion, ischemia, physical restraint and exposure to cold and excessive noise). It counters metabolic stress through normalization of blood glucose, blood pressure and lipid levels and psychological stress through positive effects on memory and cognitive function and through its anxiolytic and antidepressant properties.

Due to broad-spectrum antimicrobial activity of Tulsi against pathogens, it can be used as a hand sanitizer, mouthwash and water purifier as well as in animal rearing, wound healing, the preservation of food stuffs and herbal raw materials.

Tulsi is a tonic for the body, mind and spirit that offers solutions to many modern aged health problems. Tulsi tastes bitter and hot. It penetrates the deep tissues, dry tissue secretions and normalizes kapha and vata.

Tulsi is also credited with giving luster to the complexion, sweetness to the voice and fostering beauty, intelligence, stamina and a calm emotional disposition. (Mahajan *et al.*, 2013).

Daily consumption of Tulsi, prevent from diseases, promote general health, wellbeing and longevity and assist in dealing with the stresses of daily life.

Tulsi is antimicrobial (antibacterial, antiviral, antifungal, antiprotozoal, antimalarial, anthelmintic) mosquito repellent, antidiarrheal, antioxidant, anticataract, anti-inflammatory, chemopreventive, radioprotective, hepato-protective, neuro-protective, cardio-protective, antidiabetic, anti-hypertensive, anti-carcinogenic, analgesic, anti-pyretic, anti-allergic, immunomodulatory, central nervous system depressant, memory enhancement, anti-asthmatic, anti-tussive diaphoretic, anti-thyroid, anti-fertility, anti-ulcer, anti-emetic, anti-spasmodic, anti-arthritis, adaptogenic, anti-stress, anti-cataract, anti-leukodermal and anti-coagulant.

Tulsi has the ability to prevent liver, kidney and brain injury by protecting against the genetic, immune and cellular damage caused by pesticides, pharmaceuticals and industrial chemicals.

Tulsi is the most sacred plant of Hindus, present in the courtyard of most Hindu families. Men and women burn scented agarbatti or pour a small quantity of water near it daily after bath. Women worship the plant to burn diya near it every evening. The use of Tulsi in daily rituals is a testament to Ayurvedic wisdom. Leaf of Tulsi kept in remaining prepared food, milk etc during grahan for later use.

In Hinduism, Tulsi is worshipped as a goddess and every part of the Tulsi plant is revered and considered sacred. Leaves offered to the God Vishnu, Krishna Ji and Bajrang Bali. Inflorescence offered on Shiv ling. In Kartika month,

women worship Tulsi plant (Dhiman, 2003)

Tulsi leaves kept in water and taking as sacred water for drink or on head, during puja.

Tulsi wood and seeds are used to make tulsi mala, which are strings to beads used to help the mind focus during meditation, chanting and devotional practices and therefore ceremonially connect mind, body and spirit. (MarC 2014).

## DISCUSSIONS

Six sacred plant species have been discussed briefly in this report from Aurangabad district of Bihar. These plant species belong to six families of dicots. These plants also have much potential as medicines to cure various diseases at a low cost in comparison to the allopathy system.

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